

# Work Order ID 54759

December 21, 2009 9:05:23 AM



Page 1

Item ID: D3183-043

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket Assembly

Start Date: 12/21/09 Start Qty: 8.00



Cust Item ID:

Required Date: 1/04/10 Req'd Qty: 8.00



Customer:

Reference:

Run Start



Approvals: Process Plan: *W*

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3183

Rev C1

100

0.00



BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blanks: (1.500" x 2.250") 5.500" long

*M.A 10/01/04*

*8*

*φ*

110

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine D3183-3 as per Folio FA322 and Dwg D3183 Identify as D3183-302-Deburr03-Scribe batch number

*M.A 10/01/04*

*8*

*φ*

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

*10.01.05*

*8*

*φ*

*m*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 54759

December 21, 2009 9:05:23 AM



Page 2

Item ID: D3183-043

Accept



Setup Start



Revision ID:

Item Name: Bracket Assembly

Stop



Start Date: 12/21/09 Start Qty: 8.00



Cust Item ID:

Required Date: 1/04/10 Req'd Qty: 8.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

OK 10/01/07

8

8

Quality Control

140

Small Fab

0.00



Small Fab

Memo

0.00

Assemble D3183-043 as per Dwg D3183.

EP 10/01/11 (8)

150

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

2> S 10/01/11

(8)

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 54759

December 21, 2009 9:05:24 AM



Page 3

Item ID: D3183-043

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket Assembly

Start Date: 12/21/09 Start Qty: 8.00



Cust Item ID:

Required Date: 1/04/10 Req'd Qty: 8.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

Identify as per dwg & Stock Location: 236

0.00



Packaging

Memo

0.00

Packaging

10-1-11

8x

sf

170

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/01/12

BS 10-1-11

8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

December 21, 2009 9:05:20 AM

Page 1

Work Order ID: 54759

Parent Item: D3183-043

Parent Item Name: Bracket Assembly

Comments:

Start Date: 12/21/09

Required Date: 1/04/10

Start Qty: 8.00

Required Qty: 8.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D3183-045		Manufactured	No			100	Each	120.0000	16.0000			
-----------	--	--------------	----	--	--	-----	------	----------	---------	--	--	--



Bearing Assembly

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

ST	120	
----	-----	--

46393	3	
-------	---	--

51560	2	
-------	---	--

52209	115	
-------	-----	--

D3121-21		Manufactured	No			140	Each	43.0000	16.0000			
----------	--	--------------	----	--	--	-----	------	---------	---------	--	--	--



Bolt

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

ST	43	
----	----	--

46032	5	
-------	---	--

50096	10	
-------	----	--

52518	28	
-------	----	--

M174B1.500X02.250		Purchased	No			140	f	9.8606	3.8594			
-------------------	--	-----------	----	--	--	-----	---	--------	--------	--	--	--



17-4 SS Bar 1.50 X2.250

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

MAT	9.8606	
-----	--------	--

108309	0.82	
--------	------	--

111899	9.0406	
--------	--------	--

*EB 10/01/11*

16

*EB 10/01/11*

16

3.6666 <sup>ft</sup> *Y.A 10/01/04*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 34759
<b>Description:</b> Bracket		<b>Part Number:</b> D3183-3
<b>Inspection Dwg:</b> D3183	<b>Rev:</b> C1	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST






☒ First Article ☐ Prototype

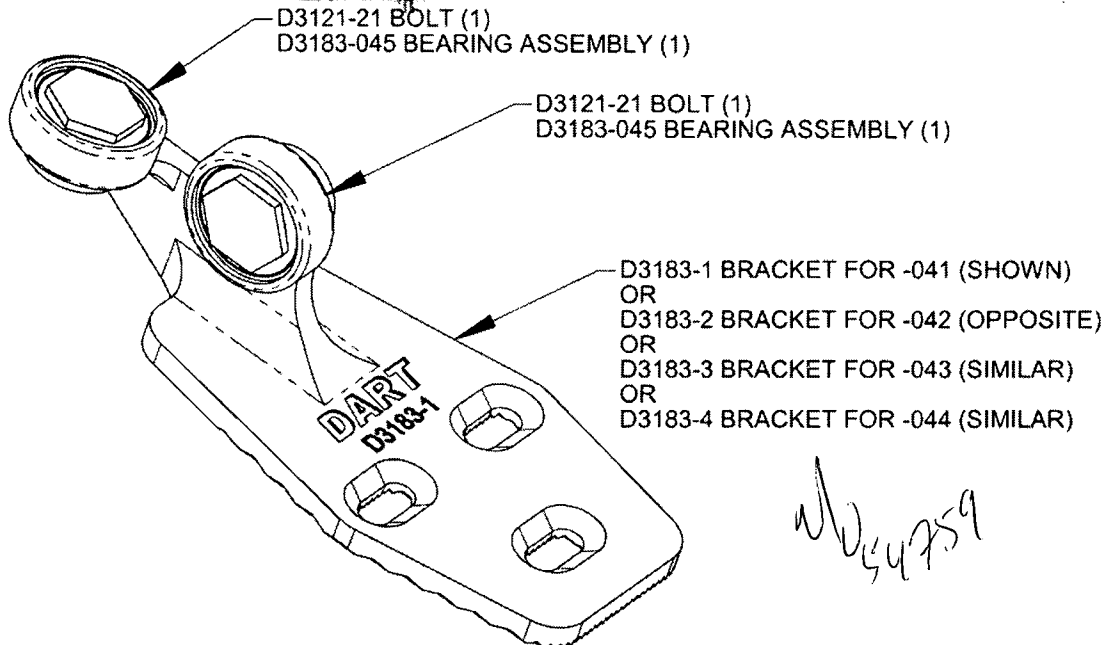
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.190	+/-0.030	R.190				
R0.063	+/-0.010	R.063				
0.182	+/-0.010	.180				
0.070	+/-0.010	.070				
0.100	+/-0.010	.098				
Ø0.201 x 0.100	+/-0.010	.200 x .100				
0.182	+/-0.010	.184				
5.32	+/-0.030	5.32				
5.036	+/-0.010	5.036				
2.120	+/-0.010	2.120				
1.290	+/-0.010	1.290				
0.365	+/-0.010	.365				
0.218	+/-0.010	.218				
1.030	+/-0.010	1.030				
1.90	+/-0.030	1.887				
1.012	+/-0.010	1.012				
Ø0.201 x 0.100	+/-0.010	.200 x .100				
0.786	+/-0.010	.786				
Ø0.392	+0.002/-0.000	.392				
R0.19	+/-0.030	R.19				
3.954	+/-0.010	3.950				
0.162	+/-0.010	.165				
R0.19	+/-0.030	R.19				
R0.25	+/-0.030	R.25				
4.26	+/-0.030	4.265				
2.080	+/-0.030	2.08				
1.155	+/-0.010	1.155				
0.162	+/-0.010	.164				
0.36	+/-0.030	.36				
0.615	+/-0.010	.615				
0.435	+/-0.010	.430				
0.200	+/-0.010	.200				
0.381	+/-0.010	.381				
0.032	+/-0.010	.032				

<b>Measured by:</b> [Signature]	<b>Audited by:</b> [Signature]	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 10-01-05	<b>Date:</b> 10/01/07	<b>Date:</b>	N/A

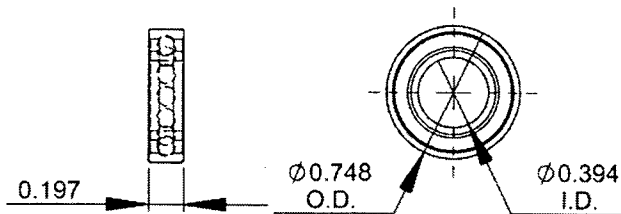
Rev	Date	Change	Revised by	Approved
A	03.11.12	New Issue P/O D3183-043	KJ/RF	
B	04.03.15	Changes as per revision C	KJ/JLM/RF	
C	06.03.09	Dwg Rev update	KJ/JLM	
D	08.01.28	0.182 dimension removed	KJEC/DD [Signature]	[Signature]

**DART**

DESIGN 		DRAWN BY 		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 		APPROVED 		DRAWING NO. D3183	
DATE 04.02.17		TITLE BRACKET ASSEMBLY		REV. C SHEET 1 OF 4 SCALE 1:1	
A	03.01.24	NEW ISSUE			
B	03.06.17	REMOVE BEARING; 1.012 WS 0.882			
C	04.02.17	ADD -045/-9; 0.182 WAS 0.431			
C1	 04.11.09; 0.830 WAS 0.850				

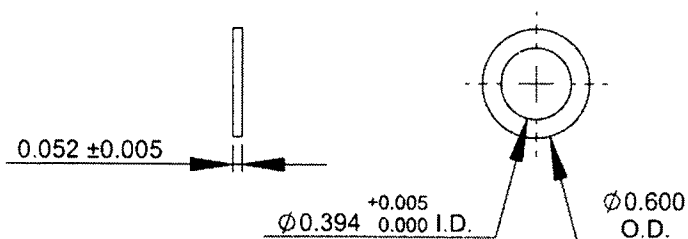
**RELEASED**  
04 03 01

**D3183-041 BRACKET ASSEMBLY (SHOWN)**  
**D3183-042 BRACKET ASSEMBLY (OPPOSITE)**  
**D3183-043 BRACKET ASSEMBLY (SIMILAR)**  
**D3183-044 BRACKET ASSEMBLY (SIMILAR)**



**D3183-5 BEARING:**  
**SPECIFICATION CONTROL DRAWING**

- 1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
- 2) POSSIBLE SUPPLIER: NSK P/N 6800ZZ
- 3) ALL DIMENSIONS ARE IN INCHES



**D3183-7 WASHER**

- 1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

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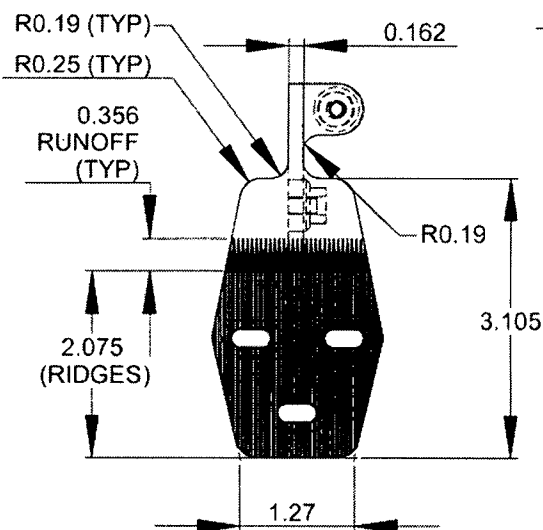
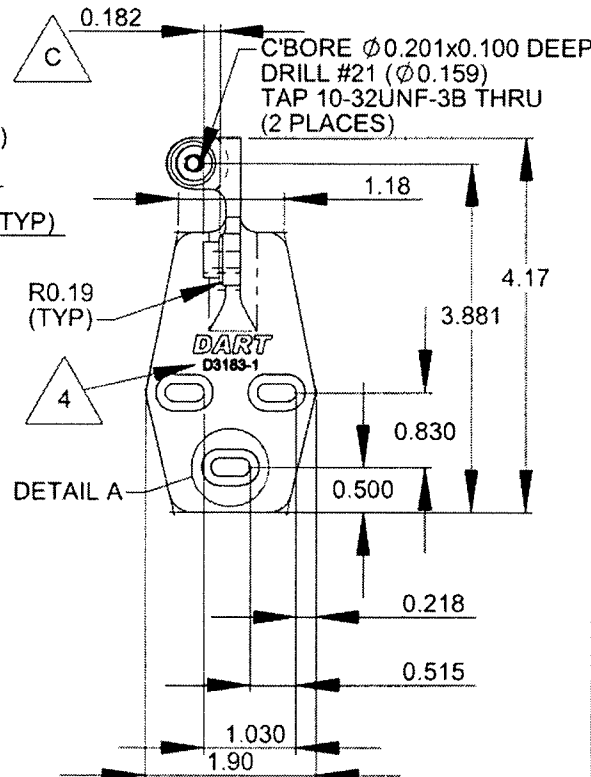
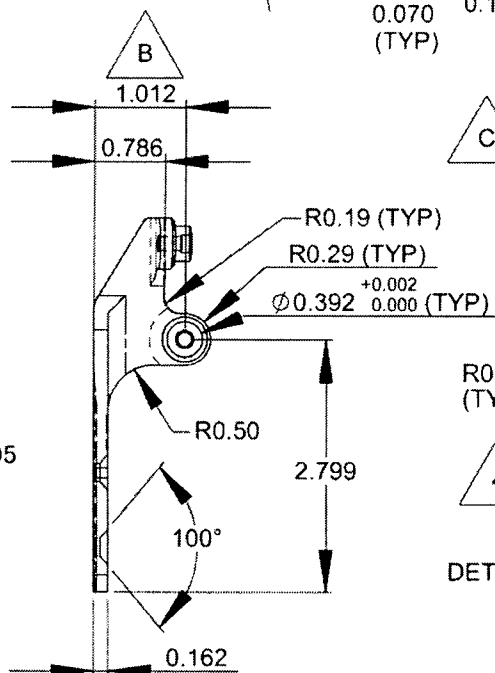
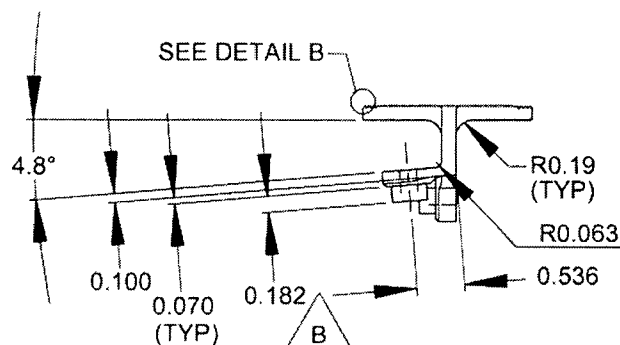
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DESIGN	DRAWN BY	<b>DART AEROSPACE LTD</b>
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	TITLE	REV. C
04.02.17	D3183	SHEET 2 OF 4
	BRACKET ASSEMBLY	SCALE 1:2

RELEASED  
04/05/01



**D3183-1 BRACKET SHOWN  
D3183-2 BRACKET OPPOSITE**

- 1) D3183-1 CAN BE MADE FROM D3183-3  
D3183-2 CAN BE MADE FROM D3183-4
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE STRENGTH = 150 ksi  
MIN YIELD STRENGTH = 100 ksi
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 4) ENGRAVE DART P/N & LOGO AS SHOWN
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

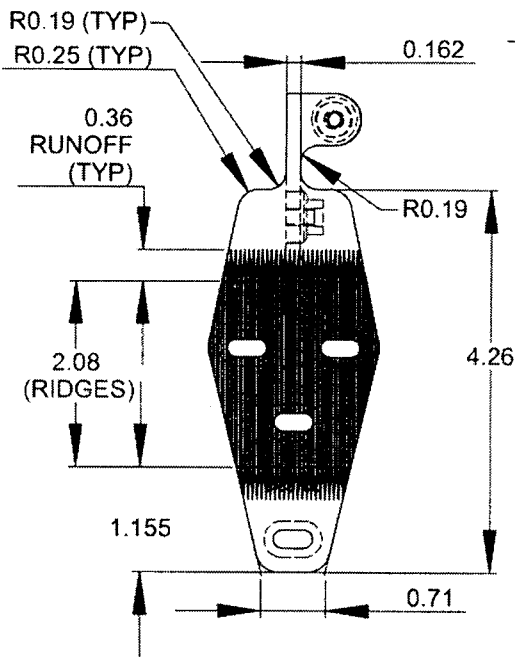
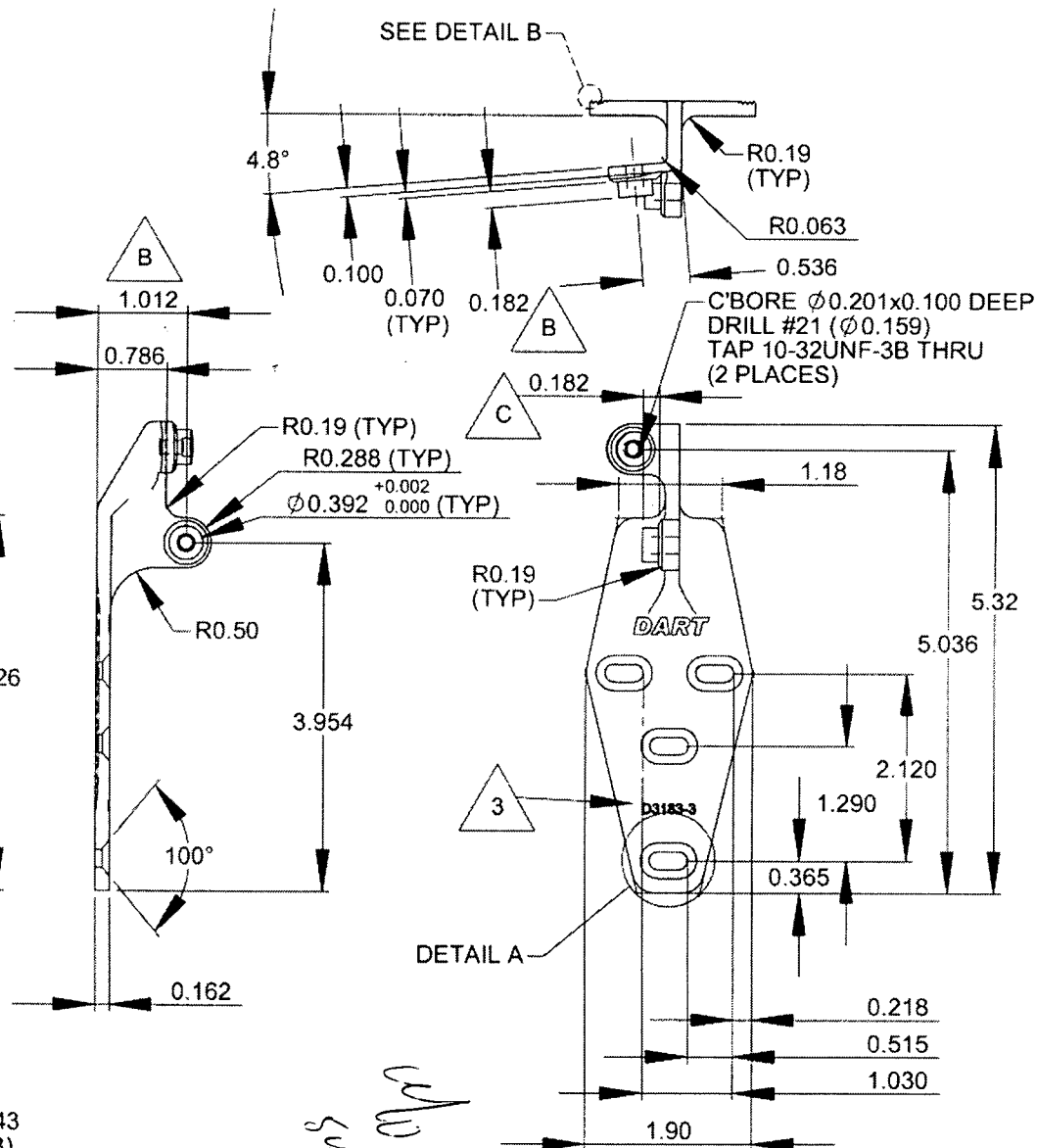
*W/E  
SHP-A*

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		HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. C
		D3183	SHEET 3 OF 4
DATE	TITLE	SCALE	
04.02.17	BRACKET ASSEMBLY	1:2	



D3183-3 BRACKET SHOWN  
(REPLACES BELL P/N 412-030-304-105)

D3183-4 BRACKET OPPOSITE  
(REPLACES BELL P/N 412-030-304-106)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE STRENGTH = 150 ksi  
MIN YIELD STRENGTH = 100 ksi
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) ENGRAVE DART P/N & LOGO AS SHOWN
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

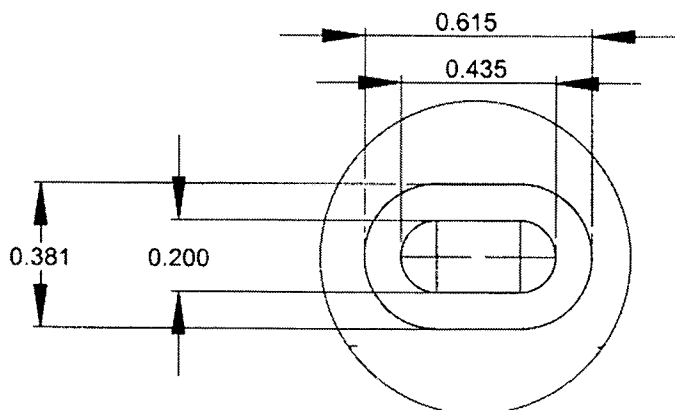
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04.02.17

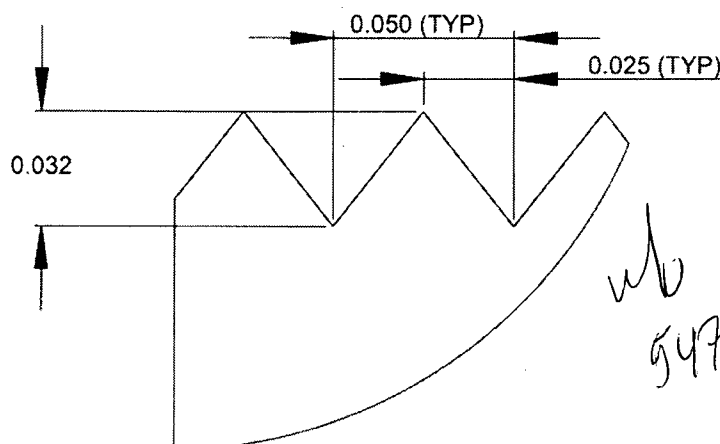


DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3183</b>	REV. C SHEET 4 OF 4
DATE <b>04.02.17</b>		TITLE <b>BRACKET ASSEMBLY</b>	SCALE 1:1

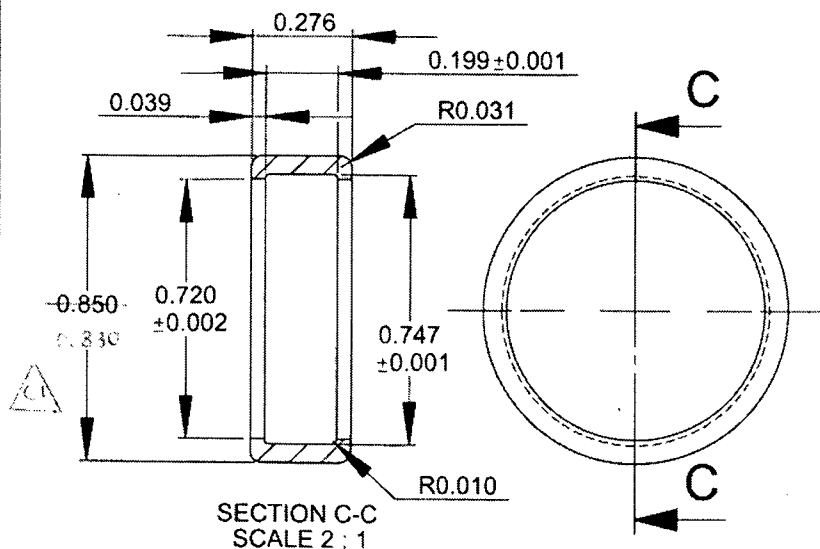


DETAIL A (2 : 1)

RELEASED  
04 03 01



DETAIL B (20 : 1)



SECTION C-C  
SCALE 2 : 1

**D3183-9 CAP**

- 1) MATERIAL: DELRIN ROD, Ø1.00  
(REF DART SPEC. M-DELRIN-R1.00)
- 2) TOLERANCES ARE PER DART QSI 018  
UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

**D3183-045 BEARING ASSEMBLY**

- 1) ASSEMBLE D3183-5 BEARING AND  
D3183-9 CAP

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